

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

FEB 1931

SAFEGUARDING YOUR FOOD AND DRUG SUPPLY -- No. 40

February 2, 1931

A series of radio talks by W. R. M. Wharton, chief, eastern district, Food and Drug Administration, U. S. Department of Agriculture, delivered Monday mornings at 10 a.m., Eastern Time, through Station WJZ, New York, and associated National Broadcasting Company stations.

Good morning, my radio friends. Your representative of the Federal Food and Drug Administration comes to you for the 40th time this morning to tell you a personal experience story illustrating how your foods and drugs are safeguarded by the enforcement of the Federal food and drugs act, and to tell you how to read the labels in order that you may become careful, efficient, discriminating, and economical buyers.

My story today is about the adulteration of evaporated apples. Some years ago, your Government representative found, by checking the quantity of materials being received against the quantity being shipped, that a dealer was selling more evaporated apples than he bought. The conclusion was inevitable from the data secured that this particular dealer was adding excess water to increase weight. Well, one morning your Government representative sauntered through the back door of the establishment and engaged the elevator boy in conversation as to the possibilities of securing a job in that plant. The elevator boy was friendly enough and gave me some advice as to how to approach the manager for a job. Your Government representative told the elevator boy there would be a better chance if the applicant had some knowledge of dried fruit. The elevator boy volunteered to show me exactly how fruit was handled and this of course was what I wanted. My new friend took me up to the fourth floor of the establishment, saying on the way up that he would introduce me to Mike, the foreman, as his cousin, all of which was done just as the accommodating elevator boy promised. Mike, the foreman, was a loquacious individual. He was proud of his accomplishments. He proceeded to inform me of the mysterious ways of treating and packing evaporated apples. Mike not only told me but he showed me how it was done. The dried apples were poured out from bags to make a large pile on the floor, then a hose attached to a hydrant was turned on full blast. The water was sprayed on the large pile of apples, while three workmen with shovels turned the pile in the same manner as concrete is mixed. I said, "Mike, how can you tell when you have gotten in all the water that the apples will stand?" He said, "Oh, that's easy, I can tell by the feel of the apples", and picking up a handful of dried apples, he said, "You see, I squeeze them in my hand. As long as they will partially separate after I open my hand, they will take more water, but when they stay rolled up in a ball after the squeezing, it is dangerous to add any more water because if they are too wet they are liable to spoil". I said, "Mike, how much water do you get into these apples?" He said, "Oh, we get the moisture content up to about 35 or 40%.

My friends, I had the evidence I needed. Properly dried and unwatered apples should contain no more than 24% moisture. Here was a concern adding an additional 10 or 15 per cent of water and selling you that water at the price of dried apples. Well, the food and drugs act was passed to prevent such frauds and other cheats. Shipments made by the concern were sampled and tested and many seizures of these evaporated apples, adulterated with water, were effected. The charge was that the apples contained an excess of water which had been mixed and packed with them in such a manner as to reduce, lower, and injuriously affect their quality. No claimant having appeared for the property, judgment of condemnation and forfeiture was entered and it was ordered by the Court that the goods be destroyed.

It is, my friends, by actions such as these that your Federal food and drugs act protects your food and drug supply.

I shall tell you today how to read labels on dried fruits. Dried fruits are fruits from which a large part of the original natural moisture has been removed by drying. Fruits commonly available in the dried form are raisins, prunes, peaches, apricots, pears, apples, figs, dates, and currants.

There are two methods of drying fruit, one by the heat of the sun, the other by application of artificial heat. Fruit dried by the first method is known as "Sun Dried," the second as "Evaporated" fruit, but the term, evaporated, is variable, since it is also applied to sun dried fruit. Dried fruits are packed in unit cellophane packages and in pasteboard cartons for sale to the consumer by the package, and in boxes from the bulk of which the grocer weighs out your purchases.

Raisins: are dried grapes, usually sun dried, prepared from grapes with seeds, from seeded grapes, and from the seedless grapes. When seeded, they are seeded after drying. The resulting products are called, respectively, "Clusters," "Seeded," and "Seedless". A number of varieties of grapes are employed to make raisins. Spanish Malagas and California Muscatis are used to produce dried bunches of clusters, and California Malagas and Muscatis or Muscatels are used to make dried bulk raisins with seeds, also to make seeded raisins. Seedless raisins are produced by drying California Thompson Seedless and Turkish Sultana grapes. Clusters and seeded raisins are sold by size and the size is indicated from small to large by the terms "1 Crown," "2 Crown," "3 Crown," and "4 Crown." 3 Crown raisins are sometimes called "Fancy" and 2 Crown are called "Choice," but the terms Fancy and Choice are used more frequently to indicate relative qualities of Seedless Raisins.

"Extra Standard" raisins are meaty and plump having shallow wrinkles, while the "Standard" or lower grade is more skinny and lean.

Read the labels and you will find information as to the kind, variety, quantity, whether seedless or seeded, place of production, and sometimes a declaration of the grade.

Prunes are often dried in the sun. All prunes are plums but not all plums are prunes. The United States produces about 80% of the world's supply of prunes. They grow and are dried in California, Oregon, southern Washington and western Idaho. Prunes are packed for sale in boxes of 25 and 50 pounds and in 1-pound and 2-pound cartons, sometimes in 5-pound bags. The principal varieties of prunes are "French," "Petite," "Italian," "Imperial," "Sugar," "Coe's Golden Drop" or "Silver Prune". The "French" variety is a sweet medium size prune. The "Italian" variety is large and has a lower sugar and higher acid content, and is consequently tart. Now, the Italian variety is grown, for the most part, in Oregon, hence generally the term Oregon Prunes means tart prunes. California produces French Prunes, Imperial Prunes, and Sugar Prunes. Oregon grows some French Prunes. Southern Washington produces a few Italian Prunes which are generally sold along with the prunes of Oregon. Both Oregon and Washington produce limited quantities of the sweet prunes, known as "Petite". When you buy the large California prunes you will receive either the "Imperial" or "Sugar" variety. Coe's Golden Drop, or Silver Prune, is a large yellow fruit. The importance of these facts to the label reader is that the various terms named are frequently used on labels as well as such regional terms as Santa Clara. Reading labels with these facts in mind will guide you in making intelligent purchases.

Like other natural products, prunes grow to different sizes. They are separated as to size, and the various sizes are known by the numbers which are required to make a pound. Imperials may run as few as 15 to the pound. Small prunes run as high as 100 to the pound. Boxes and sometimes packages are labeled with the figures, "30 - 40" or "40 - 50", and the like, which means that one pound contains 30 to 40 or 40 to 50 prunes. 30 to 40's are extra large. 40 to 50's are large. 50 to 60's and 60 to 70's are medium, and over 70 to the pound are small. The terms Extra large, Large, and Medium are sometimes used in labels. You should know the relative value of the various sizes of prunes, that is, the quantity of edible fruit in a pound of the various sizes. The 30 to 40's, and 40 to 50's, and 50 to 60's yield in a pound 13-1/2 ounces of meat, while the 80 to 90's yield only 12-3/8 ounces of meat. This represents a difference of about 7%. Generally speaking, the larger the prunes, the higher the prices. Therefore, you should know the size of the prunes you are buying and compare this with the price you are charged. Based on the recent prevailing wholesale price of prunes in California, a pound of edible prune meat from prunes of size 30 to 40 costs 9 cents. A pound of meat from size 50 to 60 costs 6 cents and a pound of meat from 80 to 90's costs 3-1/4 cents. Considering their food value alone, the smaller sizes are the best buy for the money.

Peaches: Practically all commercial dried peaches are prepared by sun drying and usually free-stone peaches are used for drying purposes, including such varieties as Muir, Crawford, Lovell and Alberta. There are two types of dried peaches, one represented by the Muir variety called "Muir" and the other known as "Yellows" represented by the other varieties named. Which type do you prefer? You may have your preference by asking for the type you like.-

Peaches are generally dried without peeling, as halves. Quality is represented by flavor, size, firmness, texture, brightness or color, uniformity and freedom from damage, maturity of fruit, freedom from discoloration and extraneous matter. Commercially, the following terms represent successive quality from highest to lowest. "Extra Fancy," "Fancy," "Extra Choice," "Choice," "Standard" "Slabs" or "Pie Fruit." Slabs, or pie fruit, is over-ripe or mashed fruit, a wholesome product, yet more or less unsightly. The grade terms often appear upon labels and the word, "Jumbo," is used to indicate very large fruit. You may buy dried peaches in bulk or in packages. Give attention to the labels and make sure that you get the product that you wish to buy.

Apricots and Pears: These are sun dried fruits. When you buy dried apricots and dried pears, remember that quality governs the price. In general, the relative grade designations are the same as for dried peaches. Remember that large sized fruit ordinarily costs more money than the small and remember that the standard grade is the least desirable, mainly because of non-uniformity in color, indicating differences in maturity.

Apples: Evaporated apples are generally prepared with artificial heat. They are sometimes cured with a little salt, and have a normal moisture content of 24%. They come to us mostly as "rings", that is slices of apples cut transversely after coring and peeling, and "chops", that is, quarters or chopped pieces. Quality is represented by the variety, maturity, color, odor, degree of dryness, and absence of defects. Evaporated apples are graded commercially from best to poorest: "Extra Fancy," "Fancy" "Extra Choice," "Choice" and "Standard". Frequently, these designations appear on labels. You should be especially careful to read the quantity of contents statement on packages of evaporated apples because while one pound is the usual carton unit, some packers put as little as 12 ounces in such a package. Make sure that you are getting the quantity you think you are buying.

Figs: Are grown in California and are imported in large quantities from practically all of the Mediterranean countries, and are dried in the sun. There are four general types of figs, known as Black or Black Mission, White Adriatic, Smyrna, (known when grown in California as Calimyrna), and Kadota. Quality is represented by size, plumpness, maturity and physical perfection, and tenderness of skin. Black Mission figs are black in color, of small size, medium heavy skin, flavor peculiar to themselves. White Adriatic are medium thin skin, less meaty and smaller than the Smyrna type. Smyrna figs are meaty, thin skinned and grow to large size. Kadota figs have a very tough skin and are used principally for canning. Figs are also labeled with the names of countries of production as "Turkish figs", "Portuguese figs" "Spanish figs" "Greek figs" "California figs" and the figs of each country have slightly different characteristics. Figs are

described according to the way they are packed as "Pulled," "Layer," "Strings," "Crosses," and "Naturals." "Layer figs are split, flattened out and packed in layers one fig on top of another. Pulled figs are those which are pulled or manipulated with the fingers to produce square or oblong shapes. Strings are figs strung on cord, and formed into a circle like a string of beads. Crosses are strung in a circle with the figs forming a circumference and with radii made of figs like the spokes of a wheel. "Naturals" are single, dried, unmanipulated figs. They are usually sold in bulk. Figs are graded into sizes which, from smallest to largest, are known in the east respectively as "Four Crown," "Five Crown," "Six Crown," "Seven Crown," and "Nine Crown," and these terms represent the diameter of flattened layer figs measuring 2, 2-1/4, 2-1/2, 2-3/4 and 3 inches. Sometimes, in order to increase the apparent size of layer figs, they are flattened out very thin, and the split is unduly evidenced in the flattening process. These crown terms are also applied to pulled figs and represent the measurements of diameters on the flattened out basis. The size terms indicated are often used on labels and sometimes the declaration is made pictorially; for example, the label on a package of seven crown figs will show the design of seven crowns. In California, figs are graded from smallest to largest as follows in five grades. "Standard" "Choice", "Extra Choice" "Fancy," and "Extra Fancy".

Dates: Dates are grown in California, Arizona, southwest Asia and northern Africa and are dried by the sun's heat. As they are sold in the American market, they are known as "Pitted," "Unpitted" and "Stuffed." In the trade, the terms, "Fancy" and "Choice" are applied to dates, the "Fancy" product being whole dates packed in layers, whereas the "Choice" Grade represents a poorer product which may be irregular in size and shape, somewhat mashed, and containing percentages of pieces of dates.

While there are some 125 varieties of dates, it will be sufficient for our purposes to describe and explain the terms which are best known in the United States. We know dates as black dates and brown or golden yellow dates.

The black date is sweet and meaty and has a thin skin. The Siyir date--- and it is known as such because it comes from that vicinity in Mesopotamia----is a black or mahogany date, is meaty, thin skinned, and does not dry out rapidly and putty ends do not occur in Siyir dates. The Fard, a black date of Arabia, is rather small in size, but has a firm texture, an excellent flavor, small pit, and is one of the highest priced dates because its firmness permits fancy packing in layers. The Hwaidi, another black date is one of the largest dates grown and is considered to be of the highest grade because of its size and tenderness. It is the most expensive variety.

One of the varieties of brown or golden yellow dates is Hallowi, which grows in Mesopotamia. Still another brown date is the Khadrawi, which comes from Basra in Iraq. This date is irregular in size and is much like the Hallowi, but is not quite as free-pitting. They are both

fine quality dates. One of the African dates is known as Deglet Noor. This is sometimes called the semi-fresh date, because it is not as fully dried as other varieties. It is also more fibrous, that is, the tissues surrounding the pits consist more largely of fibrous material.

The terms descriptive of locality of growth, and of kinds, as stated, are sometimes used on labels and you will know what they mean when you encounter them.

The term "Mission" is sometimes used on labels to describe a date produced in California. This is a black date cured like the Deglet Noor of Africa. It is sometimes called "Semi-Fresh."

Currants: The dried currants which go into your fruit cake and mince pies mostly come to this country from Greece. They are dried in the sun. They are grapes and grow on a vine, and are entirely different from our black and red currants of the garden which grow on bushes. Indeed, the dried currants which you buy in packages are really "Raisins of Corinth". Various localities in southwestern Greece produce various qualities of currants and the names of these localities are often used on labels to represent relative qualities. In general, Greek currants grading down from the first quality, are known as "Vostizzia" "Patres," "Amalias," "Kalamyos," or "Pyrgos" or "Provincial."

The term, "washed," is used on currant labels. This means that the dried product is washed to free it from any extraneous material and to cleanse it.

Perhaps you will be interested in the equivalent of ripe fruits, as represented by a few of the dried fruits. One pound of dried peaches is equivalent to 5 pounds of fresh peaches. The same is true of dried pears. One pound of dried apricots is equivalent to 5-1/2 pounds of fresh apricots. One pound of dried apples is equivalent to about 6 pounds of fresh apples. The average moisture content of dried fruits is about 20%, while the average moisture content of the fresh fruits is about 82%.

Now for one final important matter to label readers. Many of the dried fruits are sometimes treated with sulphur fumes as a result of which a small residue of sulphur dioxide remains in the finished dried fruit product.

Labels on dried fruits which have been sulphur-treated declare "sulphur dioxide." I am going to tell you something about sulphur dioxide in foods, since apparently this subject is not correctly understood by everyone. Sulphur dioxide has been---and still is--- used in foods to control the growth of abnormal ferments and molds, although this use is, today, relatively unimportant. It probably was first used in sulphuring wine vats and barrels, and containers for beer. With respect to dried fruits, the sulphuring of the product during drying was resorted to in order to prevent fermentation and decay, which under certain climatic conditions, occurred during the sun-drying of fruit. This use, however, is not of first importance in dry-hot regions where most fruits are dried. It was found that sulphur dioxide not only prevented the growth of molds or other ferments but, to a degree, checked subsequent infestation by insects. But most important, from an economic standpoint is the use of sulphur dioxide to aid the fruit in holding its natural color, and to

stimulate the evaporation of water from the fruit.

You will want to know the possible effect of sulphur dioxide on health and I may say that this matter has long been one of controversy. On the one hand, most of the authorities agree that sulphur dioxide in the quantities found in foods is harmless, but a few isolated individuals who venture to speak on the subject assail the use of sulphur dioxide bitterly. Let us consider the facts.

Shortly after the Food and Drugs Act was enacted, President Roosevelt---in order to determine definitely whether or not sulphur dioxide in the quantities in which it is ordinarily used in foods is injurious to health---appointed a board of consulting scientific experts, including five of the leading physiological chemists of the country, all selected by the President. Dr. Ira Remsen, then president of the John Hopkins University, was appointed chairman of this board. This agency made extensive experiments, actually feeding various foods, including dried fruits treated with sulphur dioxide, to human subjects over varying periods of time. The board experimented with both small and large quantities of sulphur dioxide. The large quantities exceeded the amount any consumer would ever receive from eating foods treated with sulphur dioxide. The final conclusion of this referee board of consulting experts, after carrying on various experiments for a period of five years, was that sulphur dioxide in the quantities in which it is ordinarily found in food products is not injurious to health.

Now, my friends, I want you all to become discriminating buyers. I am urging you to learn to read labels. In order to learn to read labels you should study my radio talks, and I will be glad to send copies of all those already delivered and those to follow to all who write. Address your letters to W. R. M. WHARTON, United States Department of Agriculture, 201 Varick Street, New York City.

